

Appln No. 10/627,567

Amdt date June 29, 2005

Reply to Office action of March 31, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A cathode ray tube including a color selection apparatus mounted between a phosphor screen and an electron gun installed within a vacuum tube assembly of the cathode ray tube, and one or more support members for supporting the color selection apparatus in the vacuum tube assembly, each of the one or more support members being formed by a spring comprising:

a fixed section secured to the color selection apparatus;

a locking section connected to the vacuum tube assembly;

and

a center section formed between the fixed section and the locking section,

wherein the fixed section and the center section are separated by ~~and bent~~ a bend at a first folding trace, and the center section and the locking section are separated by ~~and bent~~ a bend at a second folding trace,

wherein the spring is only bent between the locking section and the fixed section at the first folding trace and the second folding trace, and

wherein if a direction along a width of the spring is X, a direction along a length of the springs is Y, the first folding trace has an angle θ_1 with a straight line drawn on the fixed section along direction X, and the second folding trace has an

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angle θ_2 with a straight line drawn on the center section along direction X, the angle θ_2 is greater than the angle θ_1 .

2. (Original) The cathode ray tube of claim 1, wherein direction of bent between the fixed section and the center section is opposite to the direction of bent between the center section and the locking section.

3. (Original) The cathode ray tube of claim 1, wherein each of the one or more support members further comprises a holder that is fixed to the color selection apparatus and to the corresponding fixed section.

4. (Original) The cathode ray tube of claim 3, wherein the fixed section of each of the one or more support members is welded to the holder of the corresponding said spring.

5. (Original) The cathode ray tube of claim 3, wherein the first folding trace is formed to the outside of areas of the support members making contact with the holders.

6. (Original) The cathode ray tube of claim 1, wherein a connecting hole is formed in the locking section, and the connecting hole is secured to a stud pin mounted to an inner surface of the panel of the vacuum tube assembly.

7. (Currently Amended) The A cathode ray tube of claim 6, including a color selection apparatus mounted between a phosphor

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screen and an electron gun installed within a vacuum tube assembly of the cathode ray tube, and one or more support members for supporting the color selection apparatus in the vacuum tube assembly, each of the one or more support members being formed by a spring comprising:

a fixed section secured to the color selection apparatus;

a locking section connected to the vacuum tube assembly;

and

a center section formed between the fixed section and the locking section,

wherein the fixed section and the center section are separated by and bent at a first folding trace, and the center section and the locking section are separated by and bent at a second folding trace,

wherein if a direction along a width of the spring is X, a direction along a length of the springs is Y, the first folding trace has an angle θ_1 with a straight line drawn on the fixed section along direction X, and the second folding trace has an angle θ_2 with a straight line drawn on the center section along direction X, the angle θ_2 is greater than the angle θ_1 .,

wherein a connecting hole is formed in the locking section, and the connecting hole is secured to a stud pin mounted to an inner surface of the panel of the vacuum tube assembly, and

wherein the connecting hole is circular, and a distance of a straight line that passes through a center of the connecting hole and is perpendicular to the second folding trace is 5mm or greater in length.

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8. (Currently Amended) The A cathode ray tube of claim 1,
including a color selection apparatus mounted between a phosphor
screen and an electron gun installed within a vacuum tube
assembly of the cathode ray tube, and one or more support
members for supporting the color selection apparatus in the
vacuum tube assembly, each of the one or more support members
being formed by a spring comprising:

a fixed section secured to the color selection apparatus;

a locking section connected to the vacuum tube assembly;

and

a center section formed between the fixed section and the
locking section,

wherein the fixed section and the center section are
separated by and bent at a first folding trace, and the center
section and the locking section are separated by and bent at a
second folding trace,

wherein if a direction along a width of the spring is X, a
direction along a length of the springs is Y, the first folding
trace has an angle θ_1 with a straight line drawn on the fixed
section along direction X, and the second folding trace has an
angle θ_2 with a straight line drawn on the center section along
direction X, the angle θ_2 is greater than the angle θ_1 , and

wherein if a length along direction X of the spring from a
plane of the fixed section to a corner of a plane of the locking
section is h_1 , and a length along direction X of the springs
from the plane of the fixed section to a corner of a plane of
the locking section is h_2 , the following condition is satisfied:

$$1\text{mm} \leq h_2 - h_1 \leq 5\text{mm}.$$

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9. (Original) The cathode ray tube of claim 1, wherein the angle θ_1 satisfies the following condition:

$$0^\circ < \theta_1 \leq 45^\circ.$$

10. (Original) The cathode ray tube of claim 1, wherein the angle θ_2 satisfies the following condition:

$$30^\circ \leq \theta_2 \leq 70^\circ.$$

11. (Currently Amended) A support member for supporting a color selection mounted within a vacuum tube assembly of a cathode ray tube comprising:

a fixed section secured to the color selection apparatus;
a locking section secured to the vacuum tube assembly; and
a center section formed between the fixed section and the locking section, wherein the center section is planar and a first fold connects the center section to the fix section and a second fold connects the center section to the locking section
~~fixed section and the center section are separated by a first folding trace and are bent at the first folding trace, and the center section and the locking section are separated by a second folding trace and are bent at the second folding trace, and~~
wherein an angle θ_1 formed between the first ~~folding trace~~ fold and a straight line drawn on the fixed section along a direction X is ~~greater~~ smaller than an angle θ_2 formed between the second ~~folding trace~~ fold and a straight line drawn on the center section along the direction X, where the X direction is along a width of the support member.

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12. (Original) The support member of claim 11, wherein a bending direction between the fixed section and the center section is opposite to a bending direction between the center section and the locking section.

13. (Original) The support member of claim 11, further comprising a holder that is fixed to the color selection apparatus and to the corresponding fixed section.

14. (Original) The support member of claim 13, wherein the fixed section is welded to the holder.

15. (Original) The support member of claim 11, wherein a connecting hole is formed in the locking section, and the connecting hole is secured to a stud pin mounted to an inner surface of the panel of the vacuum tube assembly.

16. (Currently Amended) ~~The A support member of claim 15,~~
for supporting a color selection mounted within a vacuum tube
assembly of a cathode ray tube comprising:

a fixed section secured to the color selection apparatus;
a locking section secured to the vacuum tube assembly; and
a center section formed between the fixed section and the
locking section, wherein the fixed section and the center
section are separated by a first folding trace and are bent at
the first folding trace, and the center section and the locking
section are separated by a second folding trace and are bent at
the second folding trace, and wherein an angle θ_1 formed between

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the first folding trace and a straight line drawn on the fixed section along a direction X is smaller than an angle θ_2 formed between the second folding trace and a straight line drawn on the center section along the direction X, where the X direction is along a width of the support member,

wherein a connecting hole is formed in the locking section, and the connecting hole is secured to a stud pin mounted to an inner surface of the panel of the vacuum tube assembly, and

wherein the connecting hole is circular, and a distance of a straight line that passes through a center of the connecting hole and is perpendicular to the second folding trace is 5mm or greater in length.

17. (Currently Amended) The ~~A~~ support member of claim 11, for supporting a color selection mounted within a vacuum tube assembly of a cathode ray tube comprising:

a fixed section secured to the color selection apparatus;
a locking section secured to the vacuum tube assembly; and
a center section formed between the fixed section and the locking section, wherein the fixed section and the center section are separated by a first folding trace and are bent at the first folding trace, and the center section and the locking section are separated by a second folding trace and are bent at the second folding trace, and wherein an angle θ_1 formed between the first folding trace and a straight line drawn on the fixed section along a direction X is smaller than an angle θ_2 formed between the second folding trace and a straight line drawn on

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the center section along the direction X, where the X direction is along a width of the support member,

wherein if a length along direction X of the support member from a plane of the fixed section to a corner of a plane of the locking section is h_1 , and a length along direction X of the springs from the plane of the fixed section to a corner of a plane of the locking section is h_2 , the following condition is satisfied:

$$1\text{mm} \leq h_2 - h_1 \leq 5\text{mm}.$$

18. (Original) The support member of claim 11, wherein the angle θ_1 satisfies the following condition:

$$0^\circ < \theta_1 \leq 45^\circ.$$

19. (Currently Amended) The support member of claim 11, wherein the angle θ_2 satisfies the following condition.

$$30^\circ \leq \theta_2 \leq 70^\circ.$$